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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,431	02/12/2004	Ju-Ho Lee	678-1352 (P11800)	4335

28249 7590 07/27/2006  
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EXAMINER
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HERRERA, DIEGO D

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/777,431	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Diego Herrera	<b>Art Unit</b> 2617	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 5 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 14-17 is/are rejected.
- 7) ☒ Claim(s) 6-13, 18-30 and 32 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

#### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Response to Amendment***

Examiner noticed **cancellation** of claims 4 and 5 of application and thereby enters the changes and is made of record.

Examiner also noticed claim changes for claims 6-14, 18, 20-22, 24, & 27-32 and are made of record.

#### ***Specification***

Examiner per se corrections accepts specification.

#### ***Claim Objections***

Examiner per se corrections accepts claims 6 and 14

Examiner per se clarifications and observations pertaining claims 6, 20, & 29-32 accepts claims 6, 20, & 29-32.

#### ***Response to Arguments***

1. Applicant's arguments filed 5/5/2006 have been fully considered but they are not persuasive.

In response to the applicants arguments concerning claims 1 and 14, the applicants features in the claims wherein the weighting factors is determined individually for the scheduling commands and scheduling commands, reads on Makela et al. in view of Love et al.

Makela et al. is disclosing a method of controlling a plurality of data units wherein they are assign weights in queue or in line or in order or in priority, depending on the set of criteria set forth, in such case it includes quality of service (QoS) classes, see paragraph [0015]-[0016]. In paragraphs [0015]-[0016], Makela et al. discusses that the method does in fact assign the weights to the queues of the plurality of transmission queues, but he further defines and clarifies that a queue is assign a weight and then adjusting the weight of a queue of the plurality of transmission queues based on amount of traffic; hence, the weighting is determined individually for the queues. Makela et al. is disclosing a method for scheduling commands as found in Paragraph [0030]-[0037] and tables 1 & 2 represent a schedule of commands with the handling of traffic priority queues and assignment of markers to state priority of the queues and put them in order, hence a schedule commands. Even if the reference of Makela et al. does not teach the claimed limitation, which it does, Love et al. teaches a scheduling command shown in fig. 4-5b, & 7, where is shown a scheduling command and information relating to such an event, stating bit rate or value rate for up link and down link.

The combination does apply to this application and in reference to claim 1 and 14, the features are discussed & shown via the primary and secondary references cited in the action, and as modified by both Makela et al. and Love et al. show motivations

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and can be used because they are in the same field and teaching nearly identical systems.

Regarding the dependent claims, the features are shown via the other references cited in the action, and can be used because they are in the same field and teach nearly identical systems.

Therefore, the argued features are written broad such that they read upon the cited references or are claiming the same limitations as the cited references.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

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the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2, 14, & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makela et al. (U.S. Patent Application Publication # 2003/0152097 A1), in view of Love et al. (U.S. Patent Application Publication # 2004/0116143 A1).

1. Regarding claims 1 & 14, Makela et al. discloses and shows a method for transmitting packet data from a user equipment (UE) (Fig. 1, element 1 is a user equipment, Paragraph [0023], Makela teaches the use of a user 1 which is provided with wireless packet switched services) to Node Bs (Fig. 1, element 6; Paragraph [0023] & [0003], Makela teaches the use of Node Bs) in a code division multiple access (CDMA) (Paragraph [0002], Makela teaches that the invention is capable of performing several wireless communications standards) mobile communication system, wherein a plurality of the Node Bs are adjacent to each other (Paragraph [0025], Makela teaches that the invention has multiple RNS which may include either or both of the RNC and the base station depending on the implementation of such), and the method comprising the steps of:

- a. Receiving scheduling commands transmitted from the Node Bs  
(Paragraphs [0015]-[0017], Makela teaches the use of prioritizing the plurality of data units of the node and transmitting that information through means provided by communication system in place, hence scheduling commands from node B);
- b. Determining scheduling control information by combining weighted scheduling commands, which are determined considering weighting factors (Paragraphs [0015]-[0017] & [0029], Makela teaches assigning weight to the data then combining with the queues, i.e. scheduling commands, for controlling transfer data and scheduling control of information in the system); and
- c. Wherein the weighting factors is determined individually for the scheduling commands (Paragraph [0029], Makela shows three data packets which are then given weight and handled individually for scheduling commands meaning that the data packets are scheduled to be executed or carried out after weighted process is carried out).

Except the UE is located in the soft handover region occupied by the Node Bs and transmitting the packet data to the Node Bs according to the determined scheduling control information, nonetheless, Love et al. teaches on these limitations of the UE being located in the soft handover region occupied by the Node Bs and transmitting the packet data to the Node Bs according to the determined scheduling control information (Fig. 1 & 2, elements 214, 110, 201-

207, 212, & 210; Paragraphs [0009]-[0012], Love shows and teaches the soft handover region where the user is traveling in a RNC with Nodes and it also explains the receiving of data to the nodes which in turn go to the scheduler control which determines scheduling commands for the data transmissions).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Makela et al. to specifically monitor the UE location in a soft handover region among node Bs and the transmission of packet data in node Bs according to the determined scheduling control information taught by Love et al. for the purpose of achieving a higher throughput and lower latency (Paragraph [0013] & [0018]).

2. Consider claims 2 & 16, and as applied to claims 1 & 14 above, Makela et al. discloses and shows wherein each of the plurality of weighting factors for the Node Bs being manage by an RNC (Paragraphs [0015]-[0017] & [0029], Makela teaches assigning weight to the data then combining with the queues, i.e. scheduling commands, for controlling transfer data and scheduling control of information in the system); except that they are determined considering a physical position and a cell size of each of the Node Bs, nevertheless, Love et al. teaches these limitations that the weighted factors are determined by considering a physical position and a cell size of each of the Node Bs (Paragraph [0013]-[0014] & [0018], where adaptive modulation and coding, AMC, takes place to match the modulation and forward error correction coding scheme to the average channel conditions for each user. Which increases the "data rate for users that



have a favorable channel quality due to their proximity to a BTS or other geographical advantage”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Makela et al. to specifically include the physical position and a cell size of each of the node Bs by a radio network controller for managing the node Bs as taught by Love et al. for the purpose of achieving a higher throughput and lower latency (Paragraph [0013]).

Claims 3, 15, & 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Makela et al. (U.S. Patent Application Publication # 2003/0152097 A1), in view of applicant's admitted prior art.

3. Consider claims 3 & 17, and as applied to claims 2 & 16 above, Makela et al. does not disclose wherein as the cell size decreases, a higher weighting factor is applied, however, the applicant's admitted prior art teaches the limitation as the cell size decreases, a higher weighting factor is applied (Fig. 1 & 2, page 4, lines 19-30; page 5, lines 1-6; admitted prior art teaches the scheduling of channels is due to the “highest data rate is assigned to the UE 116 having the lowest uplink transmission power due to the shortest distance from the Node B 110...”).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the teachings of Makela et al. by including the limitation of the cell size decreases, a higher weighting factor is applied as taught by the applicant's admitted prior art for the purpose to “obtain

highest performance while maintaining the same ROT and reducing inter-cell interference with other cell" (Page 4, lines 29-30, and page 5, line 1).

4. Consider claim 15, and as applied to claim 14 above, Makela et al. does not disclose wherein the packet transmitter determines a transport format according to maximum data rate information included in the scheduling control information and a status of a data buffer storing the packet data, and transmits the packet data to the Node Bs according to the transport format, if it is determined from the scheduling control information that transmission of the packet data is possible, however, the applicant's admitted prior art does teach on the limitations of a packet transmitter determines transport format according to maximum data rate information included in the scheduling control information and a status of a data buffer storing the packet data and transmits the packet data to the Node Bs according to the transport format, if it is determined from the scheduling control information that transmission of the packet data is possible (Fig 4, elements 401-424; Fig 5, element 510; Page 3, lines: 22-29; Page 5, lines: 13-30; Page 6, lines: 1-9; as shown by the applicant's admitted prior art a transport format according to maximum data rate information, fig. 5 element 510, included in the scheduling control information, fig. 4 elements 401-424, and a status of a data buffer storing the packet data; fig. 4 elements 406, 410-414, & 421-424; and teaches that the Node B estimates or determines if a transmission of the packet data is possible by the scheduling, Page 5 & 6).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to modify the teaching of Makela et al. to include a packet transmitter determining transport format according to the maximum data rate which is included in the scheduling control information and a status of a data buffer storing the packet data and transmission to the packet data to the Node Bs according to the transport format if it is determined from the scheduling control information that transmission of the packet data is possible as taught by the applicants admitted prior art for the purposes of supporting the data being transmitted on a channel so that the Node B can determine transmission likelihood (page 5 & 6).

***Allowable Subject Matter***

Claims 6-13, 18-28, 29-30 & 32, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on statement of Reasons for Allowance".

Claim 31 is allowed.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Diego Herrera whose telephone number is (571) 272-0907. The examiner can normally be reached on Monday-Friday, 6:30AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kincaid G. Lester can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.H.

  
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SUPERVISORY PRIMARY EXAMINER